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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/810,458 03/16/01 JONES

R PFD-50351A/C

EXAMINER

HM12/0810

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ZUCKER, P.

ART UNIT

PAPER NUMBER

1623

DATE MAILED:

4

08/10/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/810,458

Applicant(s)

JONES ET AL.

Examiner

Paul A. Zucker

Art Unit

1623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 5-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other:

## DETAILED ACTION

### *Claim Objections*

1. Claims 5-15 are objected to under 37 CFR 1.75(c) as being in improper form because a multiply dependent claim may not depend upon another multiply dependant claim. See MPEP § 608.01(n). Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirai et al (US 5,886,211 03-1999). Hirai discloses (Example 15, Column 14, line 48- column 15, line 9) a process for the production of 3-isochromanone by the palladium catalyzed carbonylation of  $\alpha,\alpha'$ -o-xylene dichloride with carbon monoxide with a tertiary butyl alcohol- water mixture as solvent in the presence of a pre-formed triphenylphosphine-palladium catalyst in the presence of a base. Hirai specifically suggests a variety of catalysts (Column 6, line 13-Column 7, line 4) which are used in the amount of 0.0001-0.5 mole per mole reactant (Column 7, lines 5-8). Hirai also specifically suggests a range of ligands including a variety of phosphines (Column 7, lines 14-30) used in the amount 0.5 to 10 equivalents (Column 7, lines 31-34). A wide variety of bases are suggested ,used in the amount of 1 to 10 molar

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equivalents relative to the dihalide( Column 7, lines 52-55), including the amine bases pyridine, triethylamine and trimethylamine although the inorganic bases are preferred by Hirai. A wide variety of tertiary alcohols are contemplated (Column 8, lines 16-36) as well as the use of phase transfer catalysts in the two-phase system (Column 8, line 37-Column 9, line 38). Thus Hirai anticipates the instant disclosure.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al (US 5,886,211 03-1999) and further in view of Jones et al (WO 99/103365 03-1999). Hirai teaches (Example 15, Column 14, line 48- column 15, line 9) a process for the production of 3-isochromanone by the palladium catalyzed carbonylation of  $\alpha,\alpha'$ -o-xylene dichloride with carbon monoxide with a tertiary butyl alcohol- water mixture as solvent in the presence of a pre-formed triphenylphosphine-palladium catalyst in the presence of an inorganic base, calcium hydroxide. Hirai teaches a variety of catalysts (Column 6, line 13-Column 7, line 4) which are used in the amount of 0.0001-0.5 mole per mole reactant (Column 7, lines 5-8). Hirai also teaches a range of ligands including a variety of phosphines (Column 7, lines 14-30)

used in the amount 0.5 to 10 equivalents (Column 7, lines 31-34). A wide variety of bases are taught such as pyridine, triethylamine and trimethylamine although Hirai prefers inorganic bases. A wide variety of tertiary alcohols are contemplated (Column 8, lines 16-36) as well as the use phase transfer catalysts in the two-phase system (Column 8, line 37-Column 9, line 38). Hirai does not specifically demonstrate the use of tertiary amines as bases in the carbonylation reaction. Jones however also teaches (Page 10, lines 9-21) the use of N,N-diisopropylethylamine in the carbonylation reaction of  $\alpha,\alpha'$ -o-xylene dichloride. The Examiner notes that the instant recycle processes (Page 12, line 11-page 13, line 9) are also anticipated by Jones. The suggestion for the combination of these references is provided by Hirai which specifically suggests each element of the instant disclosure. Thus it would have been obvious for one of ordinary skill to have performed this invention at the time of its creation. The motivation is to produce an improved process for the production of 3-isochromanone an important commercial product required for the synthesis of compounds such as insecticides. The expectation for success is near certitude since both references are directed toward the purpose of the instant invention.

### ***Conclusion***

4. Claims 1-15 are outstanding. Claims 1-15 are rejected.

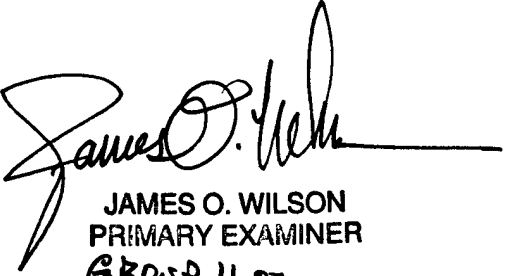
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Zucker whose telephone number is 703-306-0512. The examiner can normally be reached on Monday-Friday 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Geist can be reached on 703-308-1701. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4556 for regular communications and 703-308-4556 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

PAZ  
August 7, 2001



JAMES O. WILSON  
PRIMARY EXAMINER  
Group 1600